

Information leaflet on Extended-spectrum beta-lactamases (ESBLs) for Patients, Relatives and Carers

The treatment of common infections and several advances in medicine relies on the use of antibiotics. However, antibiotic resistant bacteria have emerged with the widespread use of antibiotics. Bacteria that produce enzymes called extended-spectrum beta-lactamases (ESBLs) are resistant to many penicillin and cephalosporin antibiotics and often to other types of antibiotic.

Q What are Enterobacteriaceae?

A *Enterobacteriaceae* are a family of bacteria that live harmlessly in the gut. They include *Escherichia coli* (E coli) that commonly cause urine and blood infections and *Klebsiella pneumoniae*, which causes urine, blood and chest infections.

Q What are Cephalosporins?

A These are antibiotics commonly used against the above types of bacteria and include Cefuroxime, Cefotaxime, Ceftriaxone and Ceftazidime.

Q How does resistance occur?

A The bacteria produce a special enzyme, beta-lactamase that breaks down the antibiotic, making it ineffective.

Q What is colonisation?

A Colonisation occurs when the bacteria are present in or on the body, but the person is well and is unaware of their presence.

Q What is infection?

A Infection occurs when the bacteria are present in or on the body and the person develops signs and symptoms such as a fever, pain, wound discharge, swelling, UTI, chest infection, redness around a wound for example. In this case the doctor will normally consider prescribing antibiotics.

Q How are ESBLs transmitted?

A As with other bacteria, ESBLs can be spread from person to person, for example by unwashed hands, on equipment that is contaminated and not cleaned sufficiently, or they can be picked up from the environment.

Q Who is at risk?

A There are a number of factors that make an individual more likely to become colonised or infected with ESBLs and these include:

- ✓ frequent or prolonged hospital admissions
- ✓ recent overseas travel
- ✓ taking repeated courses of antibiotics
- ✓ a stay in a nursing or residential home
- ✓ having a urinary catheter, gastrostomy or nasogastric tube

Q How can ESBLs be treated?

A People who are colonised with ESBLs may not need any treatment at all. For those with ESBL infections, a doctor will advise on specialised antibiotics to treat the infection.

Q How can the spread of ESBLs be prevented?

A The following precautions are simple to apply and must be adhered to/ followed by both the individuals with ESBL colonisation or infection and the people caring for them:

- ✓ everyone paying strict attention to hand hygiene by washing hands with soap and water
- ✓ healthcare workers wearing protective clothing (gloves and aprons) when in contact with you or your environment
- ✓ thoroughly cleaning all equipment between uses
- ✓ maintain high standards of environmental cleanliness

Isolation and screening

If a person colonised or infected with ESBL is admitted to hospital, they should be nursed in a single room. This helps to minimise the risk of spread to other patients. Another patient leaflet titled “While you are in Isolation - a guide for patients and visitors” has more information on how you can help stop the spread of these bacteria – please ask for a copy if you have not already been given one.

Individuals with ESBL colonisation or infection can be admitted/discharged to residential and nursing homes, though any new diagnosis should be included on your discharge letter.

Laundering Personal Items

If items are required to be taken home for washing it is advised that they are washed separately from other laundry and at a temperature of 60° where possible. Alternatively, items should be washed at a lower temperature (highest temperature possible) followed by steam ironing or tumble drying.

